

CLAIMS

1. A closure for a bottle, the closure being dispersible in a aqueous medium, the closure comprising a first component and a second component, each component defining a seal enclosing a volume within the bottle, wherein the dispersion of each component is activated by a different means.
2. A closure in accordance with claim 1, wherein the first component of the closure is insoluble in water.
3. A closure in accordance with claim 1 or 2, wherein the dispersion of the first component of the closure is triggered by an elevated temperature mechanism.
4. A closure in accordance with claim 3, wherein the elevated temperature is between 30°C-90°C, more preferably between 40°C-80°C, and most preferably about 50°C.
5. A closure in accordance with any one of claims 1 to 4, wherein the first component of the closure comprises a wax.
6. A closure in accordance with claim 5, wherein the wax is a paraffin wax or a hydrocarbon wax.
7. A closure in accordance with any one of claims 1 to 6, wherein the dispersion of the second component of the closure is triggered by contact with an aqueous medium.
8. A closure in accordance with claim 7, wherein the second component of the closure is soluble / dispersible in water.
9. A closure in accordance with claim 7 or 8, wherein the second component comprises a water soluble polymer.
10. A closure in accordance with claim 9, wherein the water soluble polymer comprises polyvinyl alcohol, polylactic acid, polyvinyl pyrrolidone or a mixture thereof.

11. A closure in accordance with claim 10, wherein the polymer comprises polyvinyl alcohol.

12. A closure in accordance with claim 7, wherein the second component of the closure has no or only a limited solubility at a pH-value above 10 and, at a pH-value below 9, has a solubility such that it becomes dissolved.

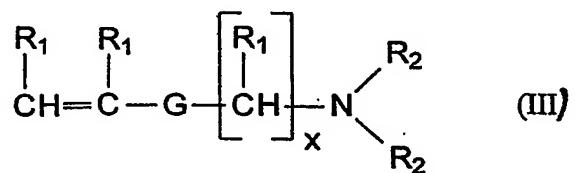
13. A closure in accordance with claim 12, wherein the component comprises a pH-sensitive polymer incorporating a repeat unit having a basic function, separate from the backbone chain of the polymer.

14. A closure in accordance with claim 13, wherein the repeat unit is based on a compound selected from the group consisting of vinyl alcohol derivatives, acrylates and alkyl acrylates having said basic function.

15. A closure in accordance with claim 13, wherein the polymer is a carbohydrate functionalised with the basic function.

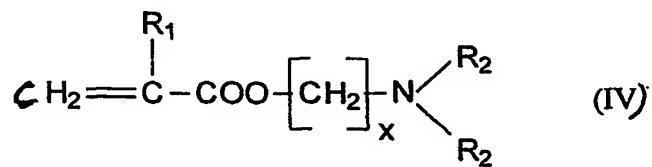
16. A closure in accordance with claim 13, 14 or 15, wherein the basic function is an amine.

17. A closure according to claim 16, in which the repeat unit is based on a compound of formula III:



in which G is linking group selected from -COO-, -OCO-, -CONH-, -NHCO-, -NHCONH-, -NHCOO-, -OCONH- or -OCOO-, each R₁ is, independently, hydrogen or an alkyl group with 1 to 3 carbon atoms, each R₂ is, independently, hydrogen or an alkyl group with 1 to 5 carbon atoms, and x is an integer from 1 to 6.

18. A closure according to claim 16, in which the repeat unit is based on a compound of formula IV:



in which R₁ is hydrogen or an alkyl group with 1 to 3 carbon atoms, each R₂ is, independently, hydrogen or alkyl group with 1 to 5 carbon atoms, and x is an integer from 1 to 6.

19. A closure in accordance with any one of claims 1 to 18, wherein the components of the closure are arranged in a two layer structure.

20. A closure in accordance with claim 19, wherein the closure is disposed within or adjacent to a dispensing aperture of the bottle.

21. A closure in accordance with claim 19 or 20, wherein the layers abut against one another.

22. A closure in accordance with claim 19, wherein a first layer is disposed within or adjacent to a dispensing aperture of the bottle defining a first seal and a second layer is disposed across a lower portion of the bottle defining a second seal.

23. A closure as illustrated in Figures 1 to 4.
24. A bottle for use in a washing machine, the bottle comprising a two component closure dispersible in an aqueous medium, each component defining a seal enclosing a volume within the bottle, wherein the dispersion of each component is activated by a different means.
25. A bottle in accordance with claim 24, wherein the closure is in accordance with any one of claims 1 to 23.
26. A bottle in accordance with claims 24 or 25, wherein the components of the closure are arranged in a two layer structure.
27. A bottle in accordance with claim 26, wherein the closure is disposed within or adjacent to a dispensing aperture of the bottle.
28. A bottle in accordance with claim 26 or 27, wherein the layers abut against one another.
29. A bottle in accordance with claim 26, wherein a first layer is disposed within or adjacent to a dispensing aperture of the bottle defining a first seal and a second layer is disposed across a lower portion of the bottle defining a second seal.
30. A bottle according to any one of claims 24 to 26, wherein the bottle has two compartments with each compartment being sealed by a different component of the closure.
31. A bottle according to claim 30, wherein the two compartments are formed by a division extending from adjacent a dispensing aperture of the bottle to the base of the bottle.
32. A bottle according to any one of claims 24 to 31, wherein the bottle contains a detergent composition.
33. A bottle according to claim 32, wherein a portion of the composition is sealed by a first component of the closure and a second portion is sealed by a second portion of the closure.

34. A bottle according to claim 32 or 33, wherein the detergent composition is a machine dishwashing detergent composition.

35. A bottle according to claim 34, wherein the machine dishwasher composition is a machine cleaning composition.

36. A bottle according to any one of claims 24 to 35, wherein the bottle comprises an additional sealing means.

37. A bottle as illustrated in Figures 1 to 4.